

Application No. 10/709,782
Technology Center 3767
Amendment dated October 5, 2006
Reply to Office Action dated September 5, 2006

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (Original): A device for detecting a chemical or biological agent and treating a person exposed to the agent, the device comprising:

a unit sufficiently small and light-weight to be carried by a person, the unit comprising at least one antidote, means coupled to the at least one antidote for selecting the at least one antidote, means for delivering the at least one antidote into the body of the person, and means for communication between the selecting means and the delivering means; and

means for detecting and identifying a chemical or biological agent near the person, the detecting and identifying means being in communication with the selecting means and operable to identify the at least one antidote as being capable of counteracting the agent and then causing the delivering means to deliver the at least one antidote into the body of the person.

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Claim 2 (Original): The device according to claim 1, wherein the delivering means comprises:

a tube comprising a freestanding tube portion through which the fluid flows;

means for vibrating the freestanding tube portion of the tube at a resonant frequency thereof that varies with the density of the at least one antidote flowing therethrough, the Coriolis effect causing the freestanding tube portion to twist while being vibrated at resonance, the freestanding tube portion exhibiting a degree of twist that varies with the mass flow rate of the at least one antidote flowing therethrough;

means for sensing movement of the freestanding tube portion of the tube, the movement-sensing means producing a first output signal based on the resonant frequency of the freestanding tube portion and a second output signal based on the degree of twist of the freestanding tube portion;

means for measuring elapsed time during which the at least one antidote has flowed through the tube; and

means for stopping flow of the at least one antidote through the tube in response to either of the first and second output signals from the movement-sensing means.

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Claim 3 (Original): The device according to claim 1, wherein the delivering means is operable to deliver the at least one antidote subdermally, intravenously, subcutaneously, or intramuscularly.

Claim 4 (Original): The device according to claim 1, wherein the unit comprises a plurality of antidotes and the selecting means selects among the plurality of antidotes.

Claim 5 (Original): The device according to claim 1, wherein the selecting means is operable to select more than one antidote, and the delivering means is operable to deliver the more than one antidote into the body of the person.

Claim 6 (Original): The device according to claim 1, wherein the detecting and identifying means is remote from the unit and not carried by the person.

Claim 7 (Original): The device according to claim 1, wherein the detecting and identifying means is physically coupled to the unit and carried on the person.

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Claim 8 (Original): The device according to claim 1, wherein the detecting and identifying means comprises:

a freestanding tube portion through which flows a portion of atmosphere surrounding the person, the freestanding tube portion comprising an internal passage containing a substance selective to the agent so that matter accumulates within the freestanding tube portion;

means for vibrating the freestanding tube portion at a resonant frequency thereof that varies with a combined density of the freestanding tube portion and contents of the internal passage; and

means for sensing movement of the freestanding tube portion and producing an output signal based on the resonant frequency of the freestanding tube portion, the output signal being indicative of accumulation of the matter and thereby presence of the agent in the atmosphere surrounding the person.

Claim 9 (Original): The device according to claim 1, further comprising means for measuring density of the at least one antidote.

Claim 10 (Original): The device according to claim 1, further comprising means for sending a signal indicating the location of the person.

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Claim 11 (Original): The device according to claim 1, further comprising means for broadcasting an alert signal to a remote location if delivery of the at least one antidote is commenced.

Claim 12 (Original): The device according to claim 1, further comprising means for monitoring biological functions of the person, identifying biological information based on the biological functions, and sending the biological information to a remote location.

Claims 13-38 (Canceled)

Claim 39 (Original): A method of detecting a chemical or biological agent and treating a person exposed to the agent, the method comprising the steps of:

equipping the person with a unit sufficiently small and light-weight to be carried by the person, the unit comprising at least one antidote, means coupled to the at least one antidote for selecting the at least one antidote, and means for delivering the at least one antidote into the body of the person;

detecting and identifying a chemical or biological agent;

sending a first signal to the selecting means based on the identity of

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the detected and identified agent;

selecting with the selecting means the at least one antidote as being
capable of counteracting the agent in accordance with the first signal;

sending a second signal to the delivering means; and then

delivering with the delivering means the at least one antidote into the
body of the person in response to the second signal.

Claim 40 (Original): The method according to claim 39, wherein the
step of delivering the at least one antidote comprises the steps of:

flowing the at least one antidote through a freestanding tube portion;

vibrating the freestanding tube portion at a resonant frequency thereof
that varies with the density of the fluid flowing therethrough, the Coriolis effect
causing the freestanding tube portion to twist while being vibrated at resonance,
the freestanding tube portion exhibiting a degree of twist that varies with the
mass flow rate of the fluid flowing therethrough;

sensing movement of the freestanding tube portion and producing a
first output signal based on the resonant frequency of the freestanding tube
portion and a second output signal based on the degree of twist of the
freestanding tube portion;

measuring elapsed time during which the fluid has flowed through the

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freestanding tube portion; and

stopping flow of the fluid through the freestanding tube portion in response to a specified amount of the at least one antidote having passed through the freestanding tube portion based on the elapsed time and the second output signal.

Claim 41 (Original): The method according to claim 39, wherein the at least one antidote is delivered subdermally, intravenously, subcutaneously, or intramuscularly.

Claim 42 (Original): The method according to claim 39, wherein the unit comprises a plurality of antidotes and the selecting means selects among the plurality of antidotes.

Claim 43 (Original): The method according to claim 39, wherein the selecting step comprises selecting more than one antidote, and the delivering step comprises delivering the more than one antidote into the body of the person.

Claim 44 (Original): The method according to claim 39, wherein the

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step of detecting and identifying the agent is not performed on the person or with the unit.

Claim 45 (Original): The method according to claim 39, wherein the step of detecting and identifying the agent is performed on the person and with the unit.

Claim 46 (Original): The method according to claim 45, wherein the step of detecting and identifying the agent comprises the steps of:

flowing a portion of atmosphere surrounding the person through an internal passage of a freestanding tube portion, the passage containing a substance selective to the agent so that matter accumulates within the freestanding tube portion;

vibrating the freestanding tube portion at a resonant frequency thereof that varies with a combined density of the freestanding tube portion and contents of the internal passage; and then

sensing movement of the freestanding tube portion and producing an output signal based on the resonant frequency of the freestanding tube portion, the output signal being indicative of accumulation of the matter and thereby presence of the agent in the atmosphere surrounding the person.

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Claim 47 (Original): The method according to claim 39, further comprising inserting the delivery means into the body of the person after the step of detecting and identifying the agent.

Claim 48 (Original): The method according to claim 47, wherein the step of sending the second signal to the delivering means is manually performed by the person.

Claim 49 (Original): The method according to claim 47, wherein the step of detecting and identifying the agent is not performed on the person or with the unit.

Claim 50 (Original): The method according to claim 39, wherein the step of detecting and identifying the agent occurs after inserting the delivering means into the body of the person.

Claim 51 (Original): The method according to claim 50, wherein the step of detecting and identifying the agent is performed on the person and with the unit.

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Claim 52 (Original): The method according to claim 50, wherein the step of detecting and identifying the agent is not performed on the person or with the unit.

Claim 53 (Original): The method according to claim 50, wherein the steps of sending the second signal to the delivering means and delivering the at least one antidote into the body of the person are performed without intervention by the person or others.

Claim 54 (Original): The method according to claim 50, wherein the step of sending the second signal to the delivering means is manually performed by the person.

Claim 55 (Original): The method according to claim 39, further comprising measuring the density of the at least one antidote during the delivering step.

Claim 56 (Original): The method according to claim 39, further comprising sending a signal indicating the location of the person.

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Claim 57 (Original): The method according to claim 39, further
broadcasting an alert signal to a remote location if delivery of the at least one
antidote is commenced.

Claim 58 (Original): The method according to claim 39, further
comprising monitoring biological functions of the person, identifying biological
information based on the biological functions, and sending the biological
information to a remote location.